

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the present application:

1. (Currently amended) A method for improved space allocation in a file system having a set of storage blocks in a mass storage system, including

maintaining an active map of said storage blocks not available for writing data;

determining, for each one of a plurality of ~~equal~~ regions of said storage blocks in said mass storage system, a ~~corresponding value responsive to~~ indicative of a number of storage blocks available for writing data in said ~~each one of a plurality of equal regions~~ region, ~~in response to~~ based on said active map and at least one snapshot of the file system, each said at least one snapshot of the file system ~~being having~~ a copy of said active map at a previous time; and

selecting, based on the values, at least one of said plurality of regions for writing data.

2. (Previously presented) A method as in claim 1, wherein said step of selecting comprises setting an allocation threshold and comparing the values to the threshold.

3. (Currently amended) A method as in claim 2, further comprising writing the data into the selected at least ~~on~~ one of said plurality of regions.

4. (Currently amended) A method as in claim 3, wherein said step of setting comprises setting the threshold based on a percentage of the number of storage blocks available for writing data in the file system.

5. (Previously presented) A method as in claim 3, wherein said step of selecting comprises selecting a first of said plurality of regions with the corresponding value exceeding the threshold.

6. (Currently amended) A method as in claim 1, wherein each said ~~corresponding~~ value ~~responsive to a number of storage blocks~~ is a binary number.

7. (Currently amended) A method as in claim 6, wherein each said ~~corresponding~~ value ~~determined for one of said regions is a binary number~~ stored in a data block containing one or more ~~of said~~ binary numbers each corresponding to a unique region.

8-9. (Canceled)

10. (Previously presented) A method as in claim 3, wherein said selecting comprises linearly searching said plurality of regions to select a first region with the corresponding value exceeding the threshold.

11. (Canceled)

12. (Currently amended) A method as in claim 3, further including ~~additional~~ selecting an additional region when said data requires more blocks than available in the selected at least one of said plurality of ~~equal~~ regions.

13. (Canceled)

14. (Currently amended) An apparatus for improved data space allocation including a file system that has a set of storage blocks and a mass storage system; wherein

said file system maintains an active map of storage blocks of the set of storage blocks that are not available to write data;

said file system determines, for each one of a plurality of equal regions of said storage blocks in said mass storage system, a value that corresponds to said ~~each one of the plurality of equal regions~~ region and is ~~responsive to~~ indicative of a number of storage blocks available to write data in said ~~each one of the plurality of equal regions~~ region, ~~in response to~~ based on said active map and at least one snapshot of the file system, each said at least one snapshot of the file system ~~being~~ having a copy of said active map at a previous time; and

said file system selects for writing data at least one of said plurality of regions in response to said values.

15. (Previously presented) An apparatus as in claim 14, wherein in the course of selecting said file system sets an allocation threshold and compares the values to the threshold.

16. (Previously presented) An apparatus as in claim 14, wherein said file system further writes the data into the selected region.

17. (Currently amended) And apparatus as in claim 15, wherein said file system sets the allocation threshold based on a percentage of the number of storage blocks available to write data in the file system.

18. (Previously presented) And apparatus as in claim 15, wherein said file system selects a first of said plurality of regions with the corresponding value exceeding the threshold using a linear search of said plurality of equal regions.

19-26. (Canceled)

27 (Currently amended) An article of manufacture comprising a memory with program code ~~embedded~~ stored therein, the program code, when executed by a processor ~~of a file system~~, directs the processor to cause ~~the~~ a file system to perform the steps of any one of claims 1-7, 10, or 12.

28. (New) A method as in claim 1, wherein said plurality of regions are equal in size.

29. (New) A method as in claim 1, wherein each of said plurality of regions of said storage blocks comprises a plurality of storage blocks, at least some of which store user data.

30. (New) An apparatus as in claim 14, wherein each of said plurality of regions of said storage blocks comprises a plurality of storage blocks, at least some of which store user data.